Title: Applicability of the Ben-Tovim Walker Body Attitudes Questionnaire (BAQ) and the Attention to Body Shape scale (ABS) in Japanese males and females

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Abstract

Objectives: To determine applicability of the Japanese-translated versions of the Ben-Tovim Walker Body Attitudes Questionnaire (BAQ) and the Attention to the Body Shape Scale (ABS) in Japanese males and females. **Methods:** The translated questionnaires were administered to Japanese living in Japan (84 males, 139 females) and also to 68 Japanese males living in Australia. The results were compared with 72 Australian males using the English version and also with previous results using Australian females. **Results:** Alpha levels from the two questionnaires ranged 0.70 to 0.87. Japanese groups showed significant ($p<0.05$) differences in the scores obtained from the BAQ compared to Australian males. The inter-subscale correlations for the BAQ were comparable regardless of ethnicity. Both questionnaires also correlated with the 26-item Eating Attitudes Test scores ($p<0.01$). **Discussion:** The current study suggests that both BAQ and ABS are adequate for use in Japanese males and females to assess their body attitudes.

Keywords

Body attitudes, the BAQ, the ABS, Japanese, Australian

Applicability of the Ben-Tovim Walker Body Attitudes Questionnaire (BAQ) and the Attention to Body Shape scale (ABS) in Japanese males and females

Introduction

Excessive levels of body concern and body dissatisfaction are associated with dieting behaviours and may be a cause of disordered eating (Klemchuk, Hutchinson, & Frank, 1990; Wiederman & Pryor, 2000). Previous reports showed a greater body dissatisfaction among females than males, and this may be influenced by the impact of media that promotes socio-cultural values of a thin ideal female figure (Groesz, Levine, & Murnen, 2002).

Previous body image studies on Japanese also noted a strong desire to be thinner among females (Ikeda & Endo, 1998; Matsuura, Fujimura, Nozawa, Iida, & Hirayama, 1992). The proportion of females (aged 15-29 years old) with extreme thinness (body mass index (BMI) below 17kg/m^2) has increased from 2.4% in the period 1976-1980 to 4.2% in the period 1996-2000 using data from the National Nutrition Survey in Japan (Takimoto, Yoshiike, Kaneda, & Yoshita, 2004). Studies comparing Japanese with Caucasians suggest a greater body dissatisfaction in Japanese than Caucasians (Ambrosi-Randic & Tokuda, 2004; Mukai, 1998). This difference may be due to low self-esteem and the perception of "less attractiveness" in Japanese compared to Caucasians (Lerner, Iwasaki, Chihara, & Sorell, 1980; Waller & Matoba, 1999).

Common methods used in Japanese body image research include assessments of unhealthy eating behaviours and the risk of developing eating disorders using the Eating Attitudes Test (EAT), (Higashi, Oishi, Onode, Tashiro, & Takeuchi, 1984; Matsumoto,

Kumano, & Sakano, 1997; Tsutsui, Nakano, Tsuboi, & Nakajima, 1994) and discrepancy in body mass or visual appearance by comparing self-perceived "current" and "ideal" body mass or using self-administered instruments such as the Figure Rating Scale (Kimura et al., 1996; Shih & Kubo, 2005; Yakura, Hiroe, & Kasagi, 1993). Use of these approaches has helped to better understand the proportion of individuals with body dissatisfaction and those who are at risk of developing disordered eating however do not identify factors that contribute to body dissatisfaction. To date, very few studies have considered ethnic differences in body image, mainly due to the unavailability of common instruments to compare results.

The Ben-Tovim Walker Body Attitudes Questionnaire (BAQ) was developed to determine the body image attitudes of individuals by identifying the factor that most influenced one's body attitudes (Ben-Tovim & Walker, 1991). Similarly the Attention to the Body Shape Scale (ABS) is a brief seven-item questionnaire that was designed to measure body attitudes, particularly issues related to visual appearance (Beebe, 1995). Validity and reliability of these questionnaires have been reported and both have the potential for use in cross-ethnic studies of differences in body attitudes.

The current study aimed to translate the BAQ and the ABS into Japanese and to test the applicability of both instruments in Japanese males and females. The results from Japanese subjects were compared to those obtained from Australians and also by assessing correlations with the validated 26-item Eating Attitudes Test (EAT-26).

Methods

Subjects

Four groups of subjects comprised the study population: Japanese males living in Australia (JA); Australian Caucasian males living in Australia (AA); Japanese males living in Japan (JJ); and, Japanese females living in Japan (JF).

Inclusion criteria for Japanese participants were: holding Japanese citizenship, perceiving themselves as having an Asian background and born of Japanese parents. Similarly Australian Caucasian males were those who have an Australian citizenship, recognized themselves as of Caucasian origin and born from Caucasian parents. Individuals who did not complete the questionnaire and those who were taking specific medication or had health conditions that interfere with their daily lifestyle were excluded from the analysis. Final sample sizes for each group were 68 JA, 72 AA, 84 JJ, and 139 JF respectively. The mean duration of time the Japanese males spent in Australia was 21.5 weeks with approximately 40% of subjects spent more than 12 weeks in Australia. Japanese subjects living in Japan were recruited from the Hyogo and Saitama prefectures.

The study was approved by the Human Research Ethics Committees of Curtin University of Technology (Australia) and Kagawa Nutrition University (Japan). The study adhered to the principles of medical research established by the National Health and Medical Research Council (NHMRC, 1999). Every subject was asked to complete a written informed consent form that explained the purpose and objectives of the research as well as confidentiality of the data.

Questionnaires

The Ben-Tovim Walker Body Attitude Questionnaire (BAQ)

The BAQ is a 44-item self-administered questionnaire designed to assess a broad range of attitudes that individuals hold towards their bodies. Items were rated on a five-point Likert scale that ranged from (1) strongly disagree, to (5) strongly agree. The BAQ examines the following attitudes: 1) Feeling fat, 2) Body disparagement, 3) Strength and fitness, 4) Salience of weight and shape, 5) Attractiveness, and 6) Lower body fatness. Examples of questions in each subscale are “I feel fat when I can’t get clothes over my hips” (Feeling fat); “People avoid me because of my looks” (Body disparagement); “I try to keep fit” (Strength and fitness); “Thinking about the shape of my body stops me from concentrating” (Salience of weight and shape); “I feel satisfied with my face” (Attractiveness); and “I like to weigh myself regularly” (Lower body fatness) respectively. From the results of 504 female respondents, a high internal-consistency of 0.87, a high correlation coefficient of 0.92, satisfactory test-retest reliability for the total score ($r = 0.83$) and for each subscale, and good convergent validity with existing instruments were demonstrated (Ben-Tovim & Walker, 1991).

The Attention to Body Shape Scale (ABS)

The ABS is a seven-item questionnaire that places more emphasis on the degree of body focus, that is, the amount of effort individuals exert to improve their body appearance. The scale includes questions such as, “I place a great deal of importance on my body shape” and “I buy products that promise to give me a better body”. The questions were rated on a five-point Likert scale that ranged from (1) definitely disagree, to (5) definitely agree. Based on an initial study of 22 males and 49 females, the ABS showed relatively high internal-consistency (between 0.7-0.82) and acceptable two-week test-retest

reliability (r = 0.76 for females and r = 0.87 for males). In addition, the ABS was significantly correlated with results obtained from the EAT-26 (p<0.001) using female subjects (Beebe, 1995).

Both the BAQ and ABS were translated into Japanese with approvals obtained from the authors who developed the questionnaires. The translated questionnaires were then back-translated until the translated questions had equivalent meanings to the original English questions. The back-translation procedure was conducted by two bilingual persons, one of whom is an accredited interpreter, who were not directly involved in the study.

The 26-item Eating Attitudes Test (EAT-26)

The Eating Attitudes Test is a questionnaire developed by Garner and Garfinkel (1979) to assess the likelihood of an individual having an eating disorder. The original version consisted of 40 questions. The current study used a later developed 26-item version (EAT-26) (Garner, Olmsted, Bohr, & Garfinkel, 1982). Because of its global acceptance as a useful assessment tool to determine unhealthy eating behaviours and the risk of developing disordered eating habits, results obtained from the abovementioned questionnaires were compared with the results of the EAT-26.

EAT-26 has three component scales: 1) Dieting, 2) Bulimia and food preoccupation, and 3) Oral control. The questionnaire uses a six-point Likert scale which ranges from (1) never, to (6) always. EAT-26 is highly correlated with the original EAT scale (r = 0.98), as well as with each subscale (Dieting: r = 0.93, Bulimia: r = 0.64, and Oral control: r = 0.64). The criterion-related validity of EAT-26 as a screening tool for

eating disorders and its reliability have been confirmed in a previous study (Garner et al., 1982). The EAT-26 has been translated into a number of languages and the Japanese-version used in this study was translated and evaluated by Mukai et al. (1994). As the majority of subjects in this study were expected to be non-eating-disordered, the current study adopted the six-point scoring method proposed by Wells et al. (1985) rather than the original three-point scoring method used by Garner and Garfinkel (1979) to avoid a skewed distribution of the results.

All Japanese groups (ie, JA, JM and JF) completed the Japanese-translated questionnaire and the AA group completed the original English version.

Anthropometry

Weight and height of participants were measured according to the protocol of the International Society for the Advancement of Kinanthropometry (ISAK) (2001) and the body mass index (BMI: body mass (kg)/stature $(m)^2$) was calculated.

All statistical analyses were conducted using the SPSS statistical package (version 10.05, 1999, Chicago). Alpha levels were obtained for both BAQ and ABS questionnaires to assess reliability. Inter-correlations of the BAQ subscales were assessed using Pearson's correlation coefficient and compared with the previous study results obtained from Australian females. Spearman's correlation between scores obtained from both the BAQ and ABS scores and the EAT-26 scores were obtained to determine usability of both questionnaires as a screening tool for unhealthy eating behaviours. In order to determine ethnic and gender differences in inter-correlations of the BAQ subscales and also correlations between instruments, the Fisher's r-to-z statistics were

conducted by calculating z value and standard error of each correlation. The inter-correlation of the BAQ subscales were also compared with the reference values (RV) that have been reported in the previous study using 504 Australian females (Ben-Tovim & Walker, 1991). As the RV values were obtained from a study using a different design it was treated as a population reference.

Results

Japanese males and females living in Japan were significantly (p<0.05) younger than those recruited in Australia (Table 1). Australian Caucasian males were also significantly taller and heavier than Japanese groups with correspondingly higher BMI values (p<0.05).

Insert Table 1 about here

Table 1 also presents alpha levels of the BAQ and the ABS total scores, which indicate internal consistencies of the questions included in each questionnaire. Alpha levels of the BAQ ranged 0.848 to 0.872 and 0.700 to 0.797 for the ABS respectively. These results suggest high internal consistency for both questionnaires for all study groups and no ethnic or gender differences were observed.

The Japanese females had significantly higher BAQ and ABS total scores compared to the male groups (p<0.05), indicating females were more concerned about their body appearance than males (Table 1). In addition, the Japanese groups scored significantly higher (p<0.05) on the “feeling fat”, the “body disparagement”, and the “lower body fatness” BAQ subscales than their Australian counterparts. On the other

hand, Australian Caucasian males showed significantly higher “strength and fitness” and “attractiveness” subscale scores than Japanese groups (p<0.05). The results suggest that Australian Caucasian males had more positive feelings about their own bodies compared to these Japanese groups.

For the EAT-26 total score, the JF group scored highest (59.4 ± 14.4), followed by the AA group (50.7 ± 11.7). Japanese females scored higher in both “dieting” and “bulimia” subscales, compared to Australian Caucasian males, the latter scoring higher than Japanese males on the dieting subscale. The results suggest that Japanese females are not only highly preoccupied with their bodies but are also more likely to commence dieting or unhealthy eating behaviours compared to male groups in the current study. No differences in the EAT scores were observed in Japanese males living in different countries.

The BAQ was further analysed by assessing the inter-correlations between subscales (Table 2). Compared with the reference values (RV) reported from the previous study using 504 females (Ben-Tovim & Walker, 1991), the JF group showed comparable inter-correlations between many subscales. Both the JF and RV groups showed consistent inter-correlations in the “feeling fat” subscale and the “body disparagement” subscale (r = 0.611 for JF and 0.510 for RV). Both groups also showed comparable correlations between the “attractiveness” and the “feeling fat”, the “body disparagement” and the “salience of weight and shape” subscales. A similar pattern was also observed in correlations between the “lower body fatness” and 1) the “feeling fat”, 2) the “body disparagement”, and 3) the “attractiveness” subscales. These results indicate that the questionnaire may be applicable to females of different ethnic backgrounds. A

consistency in inter-correlations was also evident in Japanese and Australian males in most subscales. In addition, relatively consistent inter-subscale correlations were observed between genders in each ethnic group. This may indicate that the BAQ is equally applicable to assess body attitudes in males.

At the same time the results showed differences that may be attributed to ethnicity or gender. Japanese females showed significantly positive correlations between the "salience of weight and shape" and the "body disparagement" subscales (JF = 0.556, RV = 0.120; $p<0.05$) and the "attractiveness" and the "strength" subscales than Australian females. In males Japanese showed significantly positive correlations between the "lower body fatness" and the "strength and fitness" subscales (JA = 0.314, AA = -0.177, JJ = 0.406; $p<0.05$) compared to Australians. In terms of gender differences, Australian males showed a significant negative relationship between the "attractiveness" and the "body disparagement" subscales than female counterparts, which may reflect an optimistic characteristic of Australian males about own physique. In Japanese, the JF group showed a strong inverse relationship between the "feeling of fat" and the "attractiveness" subscales as well as a positive relationship in the "lower body fatness" and the "body disparagement" subscales compared to the JJ group. As these gender differences were not observed in both ethnic groups, the results may indicate ethnic differences in certain aspects of body attitudes.

Furthermore the current study showed a significant negative relationship between the "strength and fitness" and the "body disparagement" subscales ($p<0.05$) in the JJ group compared to the JA group. On the other hand the JA group showed a greater body disparagement score as increase in feeling of fat accumulation in their lower body

(p<0.05) compared to the JJ group. These differences may indicate that the JJ group is more focused on muscle build and feelings of strength to their body disparagement whereas the JA group may focus more on fat accumulation and their feeling of body disparagement.

Insert Table 2 about here

Correlations between the total scores for the BAQ and ABS and EAT-26 total scores provide an assessment of the capability of both as screening tools for body image-related health problems (Table 3). Correlations ranged from 0.421 to 0.593 for the BAQ and from 0.353 to 0.615 for the ABS, respectively. Both BAQ and ABS questionnaires correlated more strongly with the "dieting" subscale of the EAT-26 (0.616 to 0.724) for the BAQ and 0.415 to 0.661 for the ABS. Higher scores obtained from the BAQ and ABS questionnaires may indicate a higher risk of the commencement of dieting behaviours triggered by strong body concerns. The BAQ and the ABS showed modest but significant correlations which ranged from 0.409-0.531 depending on the study group. This may suggest similarities in the factors assessed in each tool but distinct differences in constructs pertaining to body attitudes.

In addition, while there were no observed group differences in correlations between the BAQ and the EAT-26, there were differences in correlations between the ABS and other two instruments. The JF group showed significantly greater correlations between the ABS and the EAT total score and the "dieting" subscale compared to the AA and the JJ groups. On the other hand the JF group showed a lower correlation between

the ABS and the “strength” subscale compared to the JA group. The results may reflect a relationship between body concern possessed by females and their strong attention on eating but lesser in physical activity compared to males.

Insert Table 3 about here

Discussion

The Ben-Tovim Walker Body Attitudes Questionnaires (BAQ) and the Attention to Body Shape Scale (ABS) were developed to assess the factors that construct body attitudes (Beebe, 1995; Ben-Tovim & Walker, 1991). This was the first study to prepare Japanese-translated versions of both questionnaires and examine their applicability to Japanese subjects.

The alpha levels obtained from the BAQ were 0.872 for the JA, 0.868 for the JJ, and 0.848 for the JF group, respectively. These values were consistent with the values obtained for Australian Caucasian males (0.856) and also from previous studies (Beebe, 1995; Ben-Tovim & Walker, 1991) and suggest that both BAQ and ABS can be used with Japanese males and females. There were similarities in inter-correlations between the BAQ subscales obtained from Japanese females and reference values and also the values obtained from Japanese and Australian Caucasian males. Considering similar levels of inter-correlation values obtained from the RV, the instrument can be readily applied to Japanese individuals and also to Australian males.

Despite the similarities, there were some differences in inter-subscale correlations that may be attributed to ethnicity and gender. The study showed a strong association

between body concern and negative attitudes toward themselves among the JF group compared to other study groups. This may support previous studies reporting low self-esteem and body dissatisfaction among Japanese females compared to Caucasian counterparts (Mukai, 1998; Waller & Matoba, 1999). Also Japanese males showed a strong positive correlation between the “lower body fatness” and the “strength” subscales than the AA group. This suggests that Japanese males who claimed themselves as fit also expressed concern in their lower body fatness whilst no such relationship exists in Australian Caucasian males. This may be associated with differences in lifestyles between Japanese and Australian males. Japanese males may be more concerned about their body fatness because of an understanding of their level of physical inactivity and unbalanced diet compared to Australian males who are more confident with their physical activity levels and eating behaviours. Although the Japanese-translated version showed comparable results to the original English version, further validation and administration of the instrument may confirm the differences observed for each ethnic group.

Furthermore, the current study has showed differences in inter-correlations between Japanese males living in different countries. This may be associated with a difference in their living environment. While males living in Japan tend to compare their body with other Japanese males whose physique does not vary extensively, Japanese males living in Australia may compare themselves with different ethnic populations with more variability in fat and muscle accumulations. These differences in comparison groups may have impacted upon the relationship between body disparagement and physique or feeling of fitness between the groups. However due to the lack of previous research reporting changes in body attitudes in Japanese males living in different

countries, further study to confirm cultural and environmental influence in their body attitudes are recommended.

The current study also compared the scores obtained from the BAQ and the ABS with the EAT-26, one of the commonly used questionnaires to determine disordered eating behaviours. Both instruments significantly correlated with the EAT-26 total score and also with its “dieting” subscale regardless of ethnicity or gender of participant. This finding is suggestive of a consistently strong linkage between body concerns and disordered eating behaviours. It also suggests that both BAQ and ABS may be used as screening tools for unhealthy eating behaviours in both Caucasians and Japanese subjects.

Japanese males and females are likely to possess lower self-confidence than Caucasian counterparts in all aspects of fatness, strength and attractiveness, a result consistent with an earlier study that compared psychological functions of Japanese and American adolescents (Lerner et al., 1980). As self-confidence can have an influence on one’s own body image, Japanese are more likely to develop a distorted body image which may lead them into unnecessary weight-management strategies or to carry unnecessary burden of stress.

Interestingly, Australian Caucasian males showed significantly greater EAT-26 total score and dieting subscale scores than Japanese males. This may be due to a higher awareness of food consumed compared to Japanese males. We were unable to clarify reasons for the high dieting score in Australian Caucasian males and future research should include detailed assessments of eating behaviour as well as awareness of food and health.

Conclusion

The current study examined the applicability of the Ben-Tovim and Walker Body Attitudes Questionnaire and the Attention to the Body Shape Scale to Japanese adults. Results indicate that both questionnaires are satisfactory for the assessment of body attitudes of Japanese subjects. As both the BAQ and the ABS allow the assessment of body attitudes of individuals, application of these questionnaires to a wider sample of Japanese individuals may provide further information regarding ethnic or cultural interactions in body attitudes between different ethnic groups.

Acknowledgement

Authors would like to express their appreciation to Dr. D. Garner (River Centre Clinic), Professor D. Ben-Tovim (Flinders Medical Centre), Dr. D. Beebe (Children's Hospital Medical Center), and Associate Professor T. Mukai (University of the Sacred Heart) for their approval to use their questionnaires to develop Japanese-translated questionnaires for the BAQ and the ABS. Authors also express gratitude to Professor H. Ishida and Ms M. Mori (Kagawa Nutrition University) for their kind support in data collection in Japan.

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Tables

Table 1. Physical characteristics and the BAQ, the EAT-26, and the ABS scores obtained from the study groups

	JA (n = 68) Mean ± SD	AA (n = 72) Mean ± SD	JJ (n = 84) Mean ± SD	JF (n = 139) Mean ± SD
Age	23.5 ± 2.9[‡]	23.1 ± 3.3[‡]	20.5 ± 1.7[*, #]	20.4 ± 1.3[*, #]
Height (cm)	171.7 ± 5.1[#]	182.2 ± 7.2[*, ‡]	172.9 ± 5.4[#]	158.8 ± 5.0[*, #, ‡]
Weight (kg)	64.2 ± 7.6[#]	80.6 ± 11.9[*, ‡]	64.0 ± 9.1[#]	52.5 ± 6.1[*, #, ‡]
Body mass index (kg/m^2)	21.8 ± 2.3[#]	24.2 ± 3.1[*, ‡]	21.4 ± 2.8[#]	20.8 ± 2.2[#]
BAQ total score	110.8 ± 17.0	107.0 ± 14.8	109.5 ± 16.7	134.7 ± 14.9[*, #, ‡]
(Alpha level)	(0.8721)	(0.8562)	(0.8683)	(0.8484)
BAQ subscales:				
Feeling fat	33.6 ± 8.5[#]	29.3 ± 9.5[*]	32.0 ± 9.4	46.8 ± 7.7[*, #, ‡]
Body disparagement	17.2 ± 4.4[#]	13.2 ± 3.5[*, ‡]	17.7 ± 4.0[#]	19.7 ± 4.5[*, #, ‡]
Strength and fitness	17.4 ± 3.7[#]	21.1 ± 3.7[*, ‡]	17.5 ± 4.3[#]	17.9 ± 3.4[#]
Salience of weight	17.3 ± 3.7	17.7 ± 4.0	17.4 ± 3.9	21.8 ± 4.2[*, #, ‡]
Attractiveness	14.2 ± 2.9[#]	17.5 ± 2.7[*, ‡]	13.7 ± 3.4[#]	12.6 ± 2.9[*, #, ‡]
Lower body fatness	11.0 ± 3.5[#]	8.2 ± 2.4[*, ‡]	11.0 ± 2.7[#]	15.8 ± 2.5[*, #, ‡]

	JA (n = 68) Mean ± SD	AA (n = 72) Mean ± SD	JJ (n = 84) Mean ± SD	JF (n = 139) Mean ± SD
EAT total score	45.7 ± 10.4	50.7 ± 11.7[‡]	44.9 ± 10.1[#]	59.4 ± 14.4[*, #, ‡]
EAT subscales:				
Dieting	24.3 ± 6.7	26.7 ± 8.1[‡]	23.2 ± 5.5[#]	33.3 ± 9.3[*, #, ‡]
Bulimia	8.4 ± 2.8	9.5 ± 2.7	8.8 ± 3.6	12.0 ± 5.1[*, #, ‡]
Oral control	13.2 ± 4.5	14.5 ± 4.2	13.0 ± 4.9	14.1 ± 4.0
ABS total score	21.5 ± 4.1	21.2 ± 4.8	20.9 ± 4.4	24.9 ± 3.5[*, #, ‡]
(Alpha level)	(0.7788)	(0.7965)	(0.7943)	(0.7003)

[*] Significantly different from the JA at the 0.05 level.

[#] Significantly different from the AA at the 0.05 level.

[‡] Significantly different from the JJ at the 0.05 level.

Table 2. Inter-correlations between the BAQ subscales obtained from each study group

		(I)	(II)	(III)	(IV)	(V)
Feeling fat (I)	JA					
	AA					
	JJ					
	JF					
Body disparagement (II)	JA	0.549**				
	AA	0.609**				
	JJ	0.455**				
	JF	0.611**				
	RV	0.510**				
Strength and fitness (III)	JA	0.074†, #	-0.092‡			
	AA	-0.258	-0.285			
	JJ	0.053†, #	-0.443**, †			
	JF	0.003†	-0.215			
	RV	-0.170	-0.170			
Salience of weight/shape (IV)	JA	0.400**	0.533**, †	0.190‡		
	AA	0.433**	0.413**, †	0.053		
	JJ	0.537**, †	0.383**, †	0.143‡		
	JF	0.535**, †	0.556**, †	-0.127		
	RV	0.300**	0.120	-0.000		
Attractiveness (V)	JA	-0.310	-0.337**	0.416**	-0.047	
	AA	-0.247	-0.571**, †	0.424**, †	-0.138	
	JJ	-0.096†, ‡	-0.524**	0.526**, †	-0.031	
	JF	-0.413**	-0.406**	0.489**, †	-0.202	
	RV	-0.430**	-0.380**	0.210	-0.200	
Lower body fatness (VI)	JA	0.749**, †, #,	0.437**	0.314**, †, #	0.475**	-0.072
	AA	0.521**, *	0.474**	-0.177	0.361**	-0.321
	JJ	0.565**, *	0.020†, *, #, ‡	0.406**, †, #, ‡	0.282**	0.195†, #, ‡
	JF	0.597**	0.380**	0.142†, #	0.175*, †	-0.177
	RV	0.610**	0.310**	-0.130	0.360	-0.300

** Significant at the 0.01 level using Pearson's correlations.

* Significantly different from the JA values.

Significantly different from the AA values.

‡ Significantly different from the JF values.

† Significantly different from the RV values.

RV = Reference values from the previous study conducted by Ben-Tovim and Walker (1991) using 504 females (Pearson's correlation coefficient).

Table 3. Group differences in correlations between BAQ and ABS scores with EAT-26 scores

	Body Attitude Questionnaire (BAQ)				Attention to Body Shape Scale (ABS)			
	JA	AA	JJ	JF	JA	AA	JJ	JF
EAT total score	0.421**	0.453**	0.578**	0.593**	0.494**	0.353**, ‡	0.419**	0.615**
Dieting	0.651**	0.616**	0.724**	0.677**	0.498**	0.501**	0.415**, ‡	0.661**
Bulimia	0.261*	0.245*	0.435**	0.491**	0.334**	0.235*	0.289**	0.307**
Oral control	0.021	0.007	0.066	-0.050	0.239*	-0.029‡	0.218*	0.301**
BAQ total score					0.409**	0.503**	0.531**	0.454**
Feeling fat					0.207	0.277*	0.402**	0.330**
Disparagement					0.127	0.142	0.153	0.163
Strength and fitness					0.448**, ‡	0.290*	0.288**	0.150
Salience of weight/shape					0.432**	0.562**	0.518**	0.501**
Attractiveness					0.254*	0.165	0.184	0.134
Lower body fat					0.278*	0.133	0.297**	0.234**

* Significant at the 0.05 level using Spearman's correlations.

** Significant at the 0.01 level using Spearman's correlations.

‡ Significantly different from the JF values.